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Interactive Multimedia Pages for the Subject "Technics of Automation"

Multimedia technologies are very popular today, and they are widely applied for presentations, on the scientific conferences and seminars, in the universities at lectures and practical studies. Now multimedia standards MPEG-1, MPEG-2, MPEG-4 and not expensive equipment make possible to apply the multimedia technologies in the field of education including distance learning [1].

Laboratory of Mathematical Modeling of Technical Systems (Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus) is developing the Computer-Managed System for Teaching and Testing (CMSTT), based on Internet- technology. The basic principals of CMSTT are multi-level learning of the subject (theme); objects are learnt on the mathematical models; interactivity – it is possible to change the parameters of objects.

The last principle is the most important because education process becomes more interesting and visual. And this is the difference from traditional computer educational systems based, for example, on HTML or PDF formats: interactivity helps to learn the object sooner and better.

The interactivity was realized in Flash Creative Suite 3 Professional environment by Adobe Systems Inc. (the former Macromedia Inc.) CMSTT contains programmed interactive pages, examples of them are presented on Fig.1.

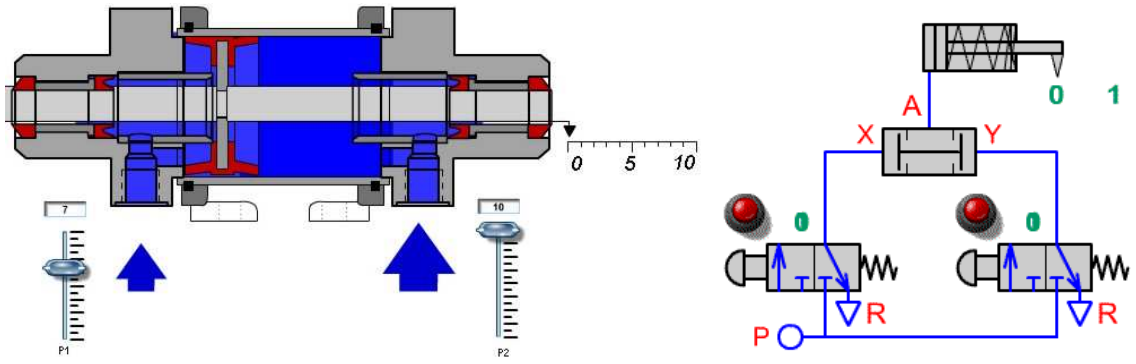

Fig.1. Interactive multimedia pages on Pneumatics

Each page includes:

– Programmed elements (on the Fig. 1 – pneumo-switches and cylinders);

– Information elements (texts, tables, grahics etc.);

– Control elements (buttons, faders etc.).

User can adjust the parameters of scheme. If user has no information about the element, he can simply click on this, and system shows another page which contains picture and detail description of element. In addition, interactive page can contain the graphic or diagram.

As example, an interactive page of conveyer transport system with pneumatic switching of direction is presented on Fig. 2.

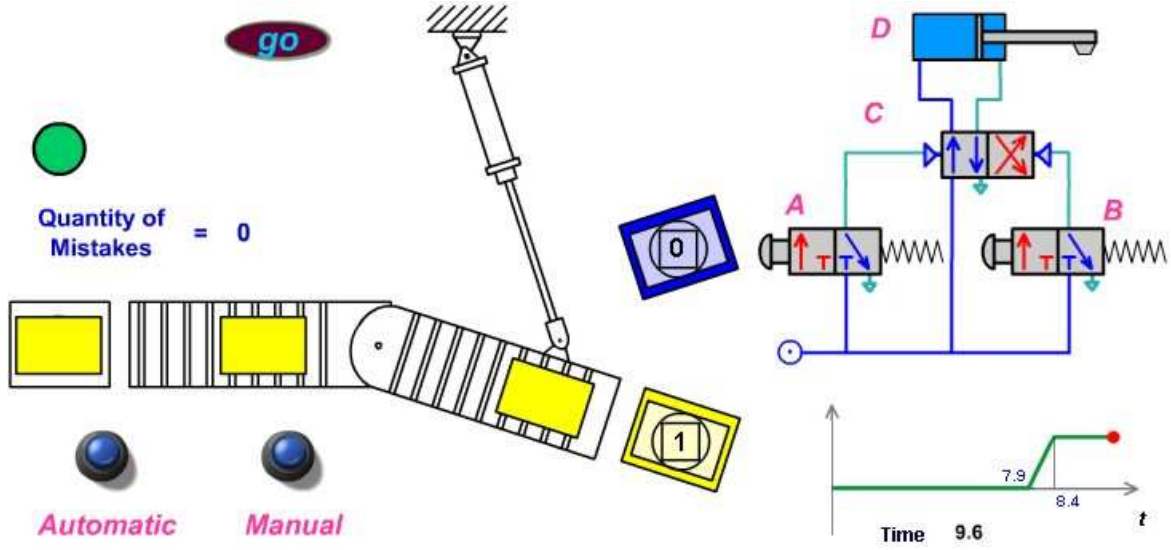

Fig.2. Interactive multimedia page on Technics of Automation

The page presented includes animated conveyer transport system with moving blue and yellow boxes, pneumatic cylinder for the switching of direction, pneumatic scheme of control (also animated) and the dynamic timing diagram of functioning.

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